

## PATENT CLAIMS

1. An optical sensor (1) for electrical machines having means for sealing between the bearing (3) of the sensor (1) and its coding disk (5), characterized in that the seal is in the form of a ferrofluid seal.
2. The optical sensor (1) as claimed in claim 1, characterized in that the sensor (1) is mounted without play.
3. The optical sensor (1) as claimed in one of the preceding claims, characterized in that the ferrofluid seal has a magnet (6) which is magnetized axially and has flux guide elements (7, 9) at each of its end faces, and thus produces a seal by means of a suitable ferrofluid liquid (8) between the sensor flange (4) and a sensor shaft (2).